

Title (en)  
IMPROVED THERMODYNAMIC SEPARATION

Title (de)  
VERBESSERTES THERMODYNAMISCHES TRENNUNGSVERFAHREN

Title (fr)  
SEPARATION THERMODYNAMIQUE AMELIOREE

Publication  
**EP 0721557 A1 19960717 (EN)**

Application  
**EP 94928223 A 19940928**

Priority  
• CA 9400520 W 19940928  
• CA 2107504 A 19931001

Abstract (en)  
[origin: WO9510011A1] A process for separation of gases into two components of different boiling points, for example in the separation of ethane from natural gas, comprises a first separation tower (V1) and a second separation tower (V2). Liquid in stream (5) from a bottom of the first tower is expanded and cooled and is then communicated in stream (6) to the second tower at a lower pressure. Gas from the second tower is communicated back to the first tower so that the first component in stream (10) is extracted from the top of the first tower and the second component in stream (11) is extracted from the bottom of the second tower. A third tower (V3) acts as a recycle fractionator upon the gas in stream (7) extracted from the top of the second tower with that gas being compressed into the third tower which is at high pressure. The liquid in stream (5) from the bottom of the first tower is used to cool a condenser (E6) at the top of the first tower (V1) and to cool the material from the recycle fractionator (V3) as it is returned to the top of the first tower.

IPC 1-7  
**F25J 3/02**

IPC 8 full level  
**B01D 3/00** (2006.01); **C07C 7/04** (2006.01); **C07C 9/04** (2006.01); **C07C 9/06** (2006.01); **C07C 9/08** (2006.01); **C10G 5/00** (2006.01); **C10G 7/00** (2006.01); **F25J 3/02** (2006.01)

CPC (source: EP)  
**F25J 3/0209** (2013.01); **F25J 3/0233** (2013.01); **F25J 3/0238** (2013.01); **F25J 3/0242** (2013.01); **F25J 3/0266** (2013.01); **F25J 2200/02** (2013.01); **F25J 2200/08** (2013.01); **F25J 2200/80** (2013.01); **F25J 2215/62** (2013.01); **F25J 2220/66** (2013.01); **F25J 2245/02** (2013.01); **F25J 2270/12** (2013.01); **F25J 2270/60** (2013.01); **Y02C 20/40** (2020.08)

Designated contracting state (EPC)  
AT DE FR GB NL

DOCDB simple family (publication)  
**WO 9510011 A1 19950413**; AT E176044 T1 19990215; AU 689804 B2 19980409; AU 7735894 A 19950501; CA 2107504 A1 19950402; CN 1134187 A 19961023; DE 69416151 D1 19990304; DE 69416151 T2 19990812; EP 0721557 A1 19960717; EP 0721557 B1 19990120; JP H09505515 A 19970603; NO 306030 B1 19990906; NO 961272 D0 19960329; NO 961272 L 19960530; NZ 273885 A 19980226; RU 2134386 C1 19990810

DOCDB simple family (application)  
**CA 9400520 W 19940928**; AT 94928223 T 19940928; AU 7735894 A 19940928; CA 2107504 A 19931001; CN 94193986 A 19940928; DE 69416151 T 19940928; EP 94928223 A 19940928; JP 51052395 A 19940928; NO 961272 A 19960329; NZ 27388594 A 19940928; RU 96108964 A 19940928